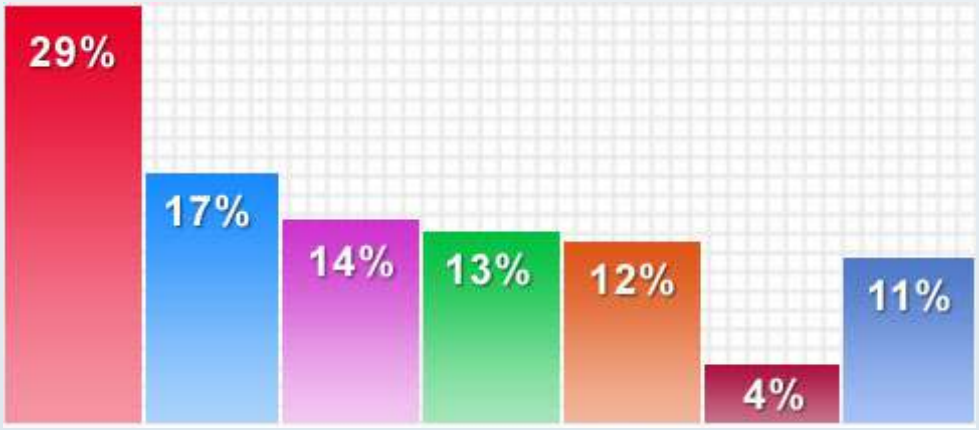
Maxwell®

Electric Tankless Water Heaters

Most Advanced Line of Residential & Commercial Instant Heaters

- Endless Hot Water
- Endless Savings

AquaFinity® Series



- The US Department of Energy says that residential tank storage heaters are the highest energy consuming home appliances only second to heating and air conditioning systems. It is consuming more energy than your refrigerator, dish washer, washer and dryer combined. If you have a traditional tank style water heater in your garage, attic, or basement and older than 9 years NOW is the time to upgrade.

- Tank-less Water Heating is the futurist solution — now Maxwell® electric tank-less water heaters available in 99% efficiency to save you up to 50% in energy consumption, enjoy endless hot water without any recovery time, and significant space savings.

Maxwell

MODEL NUMBER NOMENCLATURE

M	S	120	C	2	T	S	U

Test Calification
U : UL/ETL
C : CSA
O : NLA

Casing Type & Color
B: Injection Molding – Black
S: Injection Molding – Silver
W:Injection Molding – White
M:Metal Casing – Silver

Minor Design Change
P : Plate Heater Exchanger
T : Tubular Stainless Steel Heat Exchanger

Power Supply Code (V/ph)
1 – 120 / 1
2 – 240 / 1
5 – 240 / 3

Temperature Control
C : Automatic Constant
P : Power Level

Capacity (kW)
120 – 12.0
150 – 15.0
180 – 18.0
210 – 21.0
240 – 24.4
270 – 21.0

Heater Type
S : Tankless
H : Holding Tank

Brand:
M: Maxwell®

This Klimaire nomenclature supercedes all previously issued (05/23/2013)

PUB: M9SH1301

Tankless Water Heaters Applications

Residential Electric Water Heating

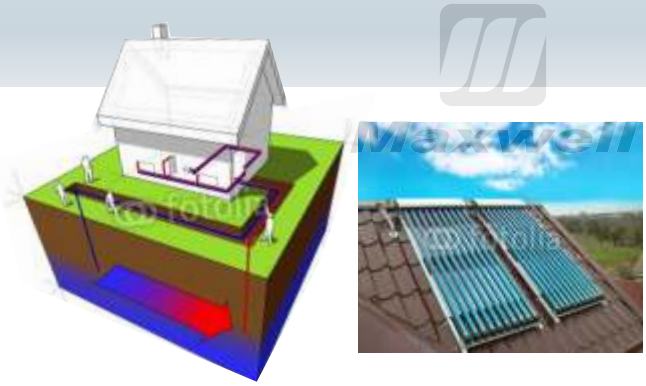
Maxwell® AquaFinity® Series tankless water heaters are perfect for single family homes, townhouses, condos, manufactured housing, apartments, cottages, cabins.
Applications include new installations, retrofits replacements and in conjunction with your new or existing heating appliance.

Commercial and Multi-Dwelling Electric Water Heating Commercial Grade

Applications for commercial properties including hotels/motels, resorts, multi-family houses, businesses, shopping centers, laboratories, hair salons, laundromats, stadiums, restaurants, theme parks, medical facilities, car washers.
Our compact units utilize a fraction of wall space and zero floor space without any venting requirements providing you the best solution for any application.

Supplemental/Auxiliary Electric Water Heating

Application as a booster for solar water heaters and geothermal water heaters.
Maxwell® electric water heater can work as a booster or an auxiliary heating appliance and raise the temperature when your system needs – perfect back up heater.



Point of Use

Applications are numerous – it is recommended in every wet zone utilizing hot water to use tankless water heaters to receive warm water immediately and avoid waiting long time while wasting water unnecessarily.

Radiant Floor Heating

Maxwell® water heaters are ideal to provide heated water for a closed loop system for uniform space heating.

Recreational

Boat kitchens and bathrooms – RV kitchens and bathrooms

Advantages

AquaFinity® Series

- Endless hot water supply on demand.
- Saves up to 50% on water heating costs.
- Space saving compact design.
- 99% plus energy efficientcy
- No minimal stand by energy losses.
- Sleek, lightweight & modern design fits most applications.
- Instant hot water at point of use applications reducing waiting time and water consumption.
- Double the life expectancy over conventional water heaters.
- No hot water storage, thus reducing mineral deposits and lime scaling to prevent efficiency reduction over time.
- Easy installation with provided accessories.
- Environmentally friendly no venting required.
- Compact design (15 3/4 H x 10 1/4 W x 3 5/8 D) wall mounting saves valuable floor space.
- No corrosion
- No enefficient mixing cold water

Point of use

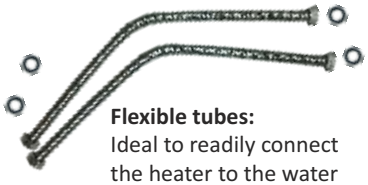
Dimensions

Maxwell

Recommended Optional Accessories

Ball valve:
It is required to isolate the heater without affecting the water flow to the rest of the house, and for maintenance. The valve can also be used to regulate the GPM without restrictions.

Hex nipple:
to make easier the connection of the heater and the water piping



Flexible tubes:
Ideal to readily connect the heater to the water inlet and to the point of use.

Water filter:
Filters water at the supply to help reduce sediment, sand and rust to extend the life and performance of the water heater, avoiding calcification of the heating element, and the internal water channel.

Warranty

1 YEAR ALL PARTS GUARANTEE

One year all parts

3 YEAR HEATING CHAMBER GUARANTEE

Three years heating chamber

3 YEAR OPTIONAL REPLACEMENT GUARANTEE

Three years optional replacement warranty

Features

Models available in multiple colors
to match your interior design.

Black

Silver

IMD Injection Molding Models
12 kW - 24 kW

Silver

Attractive Metal Casing
15 kW - 27 kW

Case-unique glossy IMD front cover,
splash-proof, corrosion and age resistant

Patented heating technology – enclosed loop heating system for instant hot water with less heating loss, nano insulation material totally separates water from electricity

Reliability – Single piece cast aluminum with a stainless steel flow channel that eliminates water and electric leakages in the heating chamber, therefore the heating element will have an extended service life unaffected by the quality of the water thus avoiding lime scaling.

Multi-protection devices – anti-scalding, over-pressure, over-temperature, and electricity isolation

Digital temperature control - Direct temperature setting, from 86º F -127º F, allows you to get constant hot water at the precise temperature for maximum comfort and suitable for different applications; memory function avoids repeating settings.

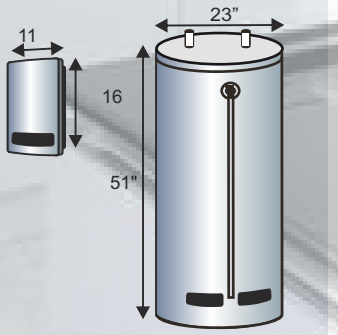
Convenience - LED wide screen touch button displays the working conditions, outlet temperature, working time, and power consumption.

Advanced micro-processor control - Self-diagnostic function automatically monitors and displays working conditions, providing constant temperature water flow by engaging heating elements in stages

Soft Start. – Power is regulated to avoid excessive startup surge.

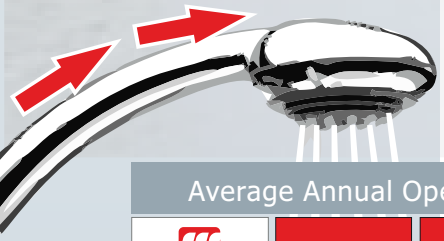
Top Reasons to Select Maxwell® Tankless Water Heaters (TWH)

Unlike traditional tank water heaters wasting energy and heating water all day long with limited hot water supply capability, lengthy recovery time with decaying efficiency and capacity over time, MAXWELL® tankless heaters offer you endless hot water supply consistent over life, comfortable water temperature, saving up to 50% in energy consumption, maintaining 99% efficiency throughout its service life with minimal standby loss. By providing warm water immediately where it's used, tankless water heaters waste less water. Maxwell® tankless water heaters use the most advanced technology to produce the most eco-friendly water heating appliance available in the market. Using Maxwell® AquaFinity® heaters you contribute to reduce the environmental impact while conserving water and saving money. Maxwell® AquaFinity® Series electric water heaters use state-of-the-art patented technology with several different layers of insulating ceramic avoiding direct contact of water with heating elements to prevent corrosion and scaling.



Space Saving Technology

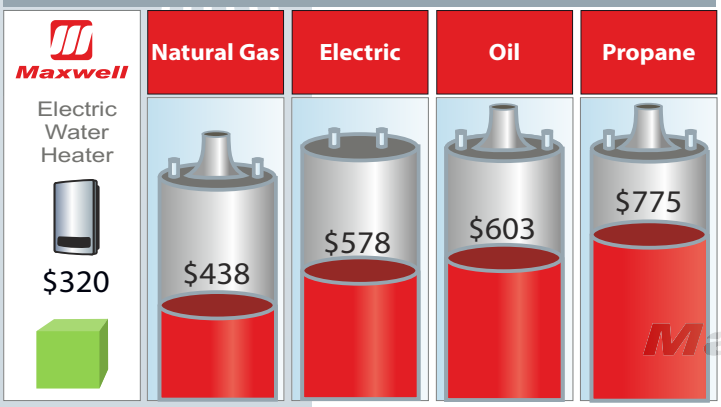
Traditional tank water heaters can take 16 sq. ft of valuable floor space. However, AquaFinity® Series are smaller than attaché case — sleek, lightweight and attractive, design allows you for unconcealed installation applications with any decoration virtually on any wall inside your house. Our compact design gives you limitless installation options. By strategically locating the Aquafinity Series maximum performance, energy efficiency, and reduced water consumption will be achieved for point of use application or whole house water heating.



Never-ending Hot Water On-Demand

Maxwell® AquaFinity® Series tankless water heaters supply hot water when needed. Since there is not storage tank you enjoy hot water as long as needed. Even during the peak use you don't have to concern running out of hot water or to wait for the tank to recover.

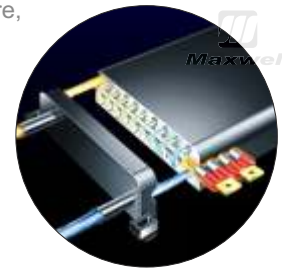
Average Annual Operating Costs Comparison



ENERGY FACTOR				
0.99	0.575	0.9	0.55	0.575
FUEL COST				
11.7 ¢	$1,63	11.7 ¢	$2,97	$2,59
YEARLY CONSUMPTION				
2739 kW-h	269 Therm	5015 kWh	203 Gal	269 Therm
AVERGAGE SERVICE LIFE				
20 yrs.	10 yrs.	14 yrs.	9 yrs.	10 yrs.

Proven Energy Savings

Traditional tanks as well as conventional tankless water heaters use immersed coils in the water directly heating it. This kind of design causes heat spots and over time lime scaling and mineral deposits that decrease the heating capacity that lowers the efficiency of the heater. The newly designed Maxwell unit heats water instantly as it flows thru the heating channel. The flow rate and temperature of the incoming water are monitored by the electronic control that activates the number of heating elements required to reach the set temperature, and keep it constant for maximum comfort.



Proven and Reliable Technology

Traditional tank and conventional tank-less water heaters heat the water directly using immersed coils. This type of design causes heat spots, lime scaling, and mineral deposit build up that affect the heating capacity, and reduce the efficiency. Since there is not water storage and traditional coil heating element in the Maxwell® heaters their efficiency improves and the product life is doubled. The Maxwell heaters are built with a stainless steel water flow channel inside single piece aluminum cast that further increase their service life. Precise digital control provides an endless hot water supply at constant temperature.

Specifications

□ Technical Data

Injected Mold Model

Model	MS120C2T_U	MS150C2T_U	MS180C2T_U	MS210C2T_U	MS240C2T_U	MS270C2T_U
Phase	1	1	1	1	1	1
Voltage V	240	240	240	240	240	240
Wattage kW	12	15	18	21	24	27
Max. Amp. Load @ 240V A	50	63	75	88	100	113
No. of circuits n	1	2	2	3	3	3
Min. required double pole circuit breaker A	60	2 x 40	2 x 50	3 x 40	3 x 40	3 x 50
Min. wire size AWG cooper	8	2 x 8	2 x 8	3 x 8	3 x 8	3 x 8
Min. water flow to activate GPM / L/min.	0.84 / 3.2	0.84 / 3.2	0.84 / 3.2	0.84 / 3.2	0.84 / 3.2	0.84 / 3.2
Working pressure PSI/bar	Max.150/10					
Temperature range - ºF	86º - 122º	86º - 122º	86º - 122º	86º - 122º	86º - 122º	86º - 122º
Weight kg lb	3.6 7.9	5.3 11.7	5.3 11.7	5.5 12.1	5.5 12.1	5.5 12.1
Product Dimensions mm in.	385x260x93 15.1x10.2x3.7	385x260x93 15.1x10.2x3.7	385x260x93 15.1x10.2x3.7	385x260x93 15.1x10.2x3.7	385x260x93 15.1x10.2x3.7	385x260x93 15.1x10.2x3.7
Water connections NPT	1/2”	3/4”	3/4”	3/4”	3/4”	3/4”

Stainless Steel Model

Model	MS150C2TMU	MS180C2TMU	MS210C2TMU	MS240C2TMU	MS270C2TMU
Phase	1	1	1	1	1
Voltage V	240 V	240V	240 V	240 V	240 V
Wattage kW	15kw	18kw	21kw	24kw	27kw
Max. amp. load @ 240V A	63	75	88	100	113
No. of circuits	2	2	3	3	3
Min. required circuit breaker A	2 X 40	2 X 50	3X 40	3X 40	3X 50
Min. wire size AWG cooper	2 X 8	2 X 8	3 X 8	3 X 8	3 X 8
Min. water flow to activate GPM / L/min.	0.84/ 3.2	0.84/ 3.2	0.84/ 3.2	0.84/ 3.2	0.84/ 3.2
Temperature range - ºF	86º - 122º	86º - 122º	86º - 122º	86º - 122º	86º - 122º
Working pressure PSI/bar	Max.150/10				
Weight lb	17.6	17.6	17.6	17.6	17.6
Product Dimensions in	16.1 x 11 x 3.5	16.1 x 11 x 3.5	16.1 x 11 x 3.5	16.1 x 11 x 3.5	16.1 x 11 x 3.5
Water connections NPT	3/4”	3/4”	3/4”	3/4”	3/4”

Check your local electrical code requirements for different voltage application

MS_C2P_U
(Injection Mold Case)

MS_C2PMU
(Metal Case)

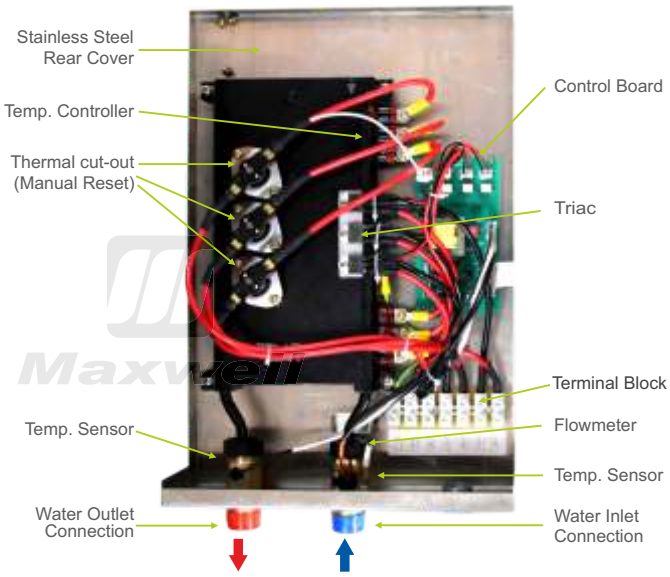
Average Household Water Usage

Point of Use	GPM*
Shower	2.0
Tub	4.0
Lavatory sink	1.5
Dish washer	2.0
Kitchen sink	2.2
Washing machine	3.0

* Max

MS-C2TMU

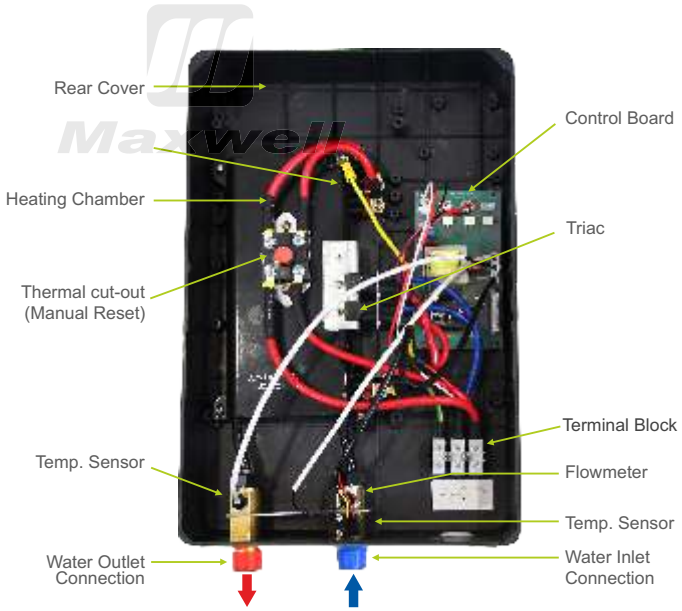
Stainless Steel Model



Picture 2

MS-C2T_U

Injected Mold Model



Picture 3

How Maxwell Tankless Water Heater Works

Undisputed twenty two years of heating experience and engineering has applied to develop the Maxwell® tankless water heaters delivering many years of reliable water heating in your home or in commercial applications. Below is the explanation to help you to understand and to familiarize with the operation of Maxwell® electric tankless water heaters.

1. Once you turn hot water faucet on, cold water flows through the unit passing thru a flow meter and inlet temperature sensor that measure the precise flow rate and temperature of the incoming water.

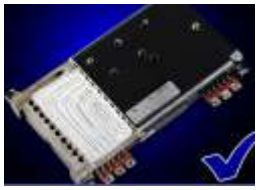
2. Advanced micro-processor control monitors and senses all working conditions of the heater and switches devices to fully modulate the power of the heating elements from 0-100% to provide the most precise and consistent hot water temperatures in the industry.

3. The micro-processor engages heating elements in stages depending on the demand requested by the amount of the water flow and inlet water temperature using solid state switching triac. Power is always regulated to avoid excessive startup surge.

4. As the water flows out of the unit the water is being heated in the patented multilayer heating chamber and a second sensor at the outlet makes any necessary adjustments to ensure Maxwell® tankless water heater delivers accurate and constant temperature hot water.

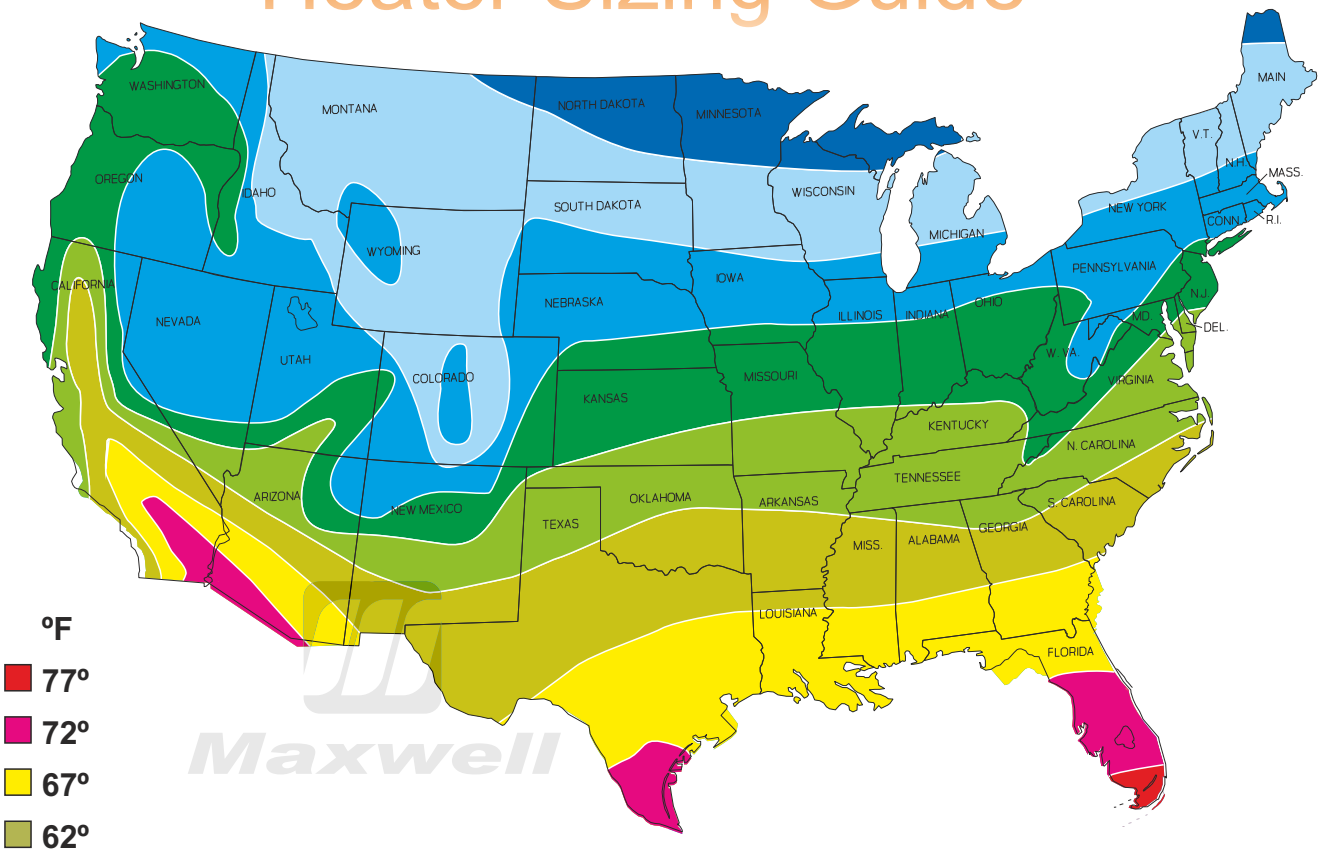
5. System continues to operate and remains on until no flow is detected then goes to stand-by mode until any hot water faucet is turn on again.

6. Maxwell® advanced micro-processor has numerous features to monitor and control with self-diagnostic functions and displays the working conditions, the outlet water temperature, working time and the kW power consumption to enable the homeowners to optimize the usage of the heater and maximize savings, and gain the most benefits from their investment



Sheathed
Heating Plate

Heater Sizing Guide



ºF

- **77º**
- **72º**
- **67º**
- **62º**
- **57º**
- **52º**
- **47º**
- **42º**
- **37º**

There are many factors that go into selecting the right water heater: the number of people in the home, type of showers and tubs, water pressure and geographic region. To make the process easier, we offer the map and flow-rate table below.

1. On the map, determine the ground water temperature in your area.
2. In the corresponding column select the water heater based on how many fixtures you'll be running at the same time.
3. The temperatures shown above are based on the average coldest ground temperature in your region.

Heater Sizing Guide

	Summer				Winter				
Inlet Water Temp. / Model Nº	77º F	72º F	67º F	62º F	57º F	52º F	47º F	42º F	37º F
MS120C2P_U	2.7 gpm	2.4 gpm	2.2 gpm	2.1 gpm	1.8 gpm	1.5 gpm	1.3 gpm	1.2 gpm	1.1 gpm
MS150C2P_U	3.5 gpm	3.2 gpm	2.6 gpm	2.5 gpm	2.3 gpm	2.0 gpm	1.7 gpm	1.5 gpm	1.3 gpm
MS180C2P_U	4.0 gpm	3.6 gpm	3.2 gpm	3.0 gpm	2.7 gpm	2.5 gpm	2.3 gpm	2.1 gpm	1.8 gpm
MS210C2P_U	5.0 gpm	4.5 gpm	3.8 gpm	3.5 gpm	3.2 gpm	2.7 gpm	2.4gpm	2.2 gpm	2.1 gpm
MS240C2P_U	5.6 gpm	4.8 gpm	4.2 gpm	3.5 gpm	3.3 gpm	2.8 gpm	2.6gpm	2.4 gpm	2.2 gpm
MS270C2P_U	6.4 gpm	5.3 gpm	4.7 gpm	4.0 gpm	3.6 gpm	3.3 gpm	3.0gpm	2.7 gpm	2.5 gpm

Shower **Sink Faucet**

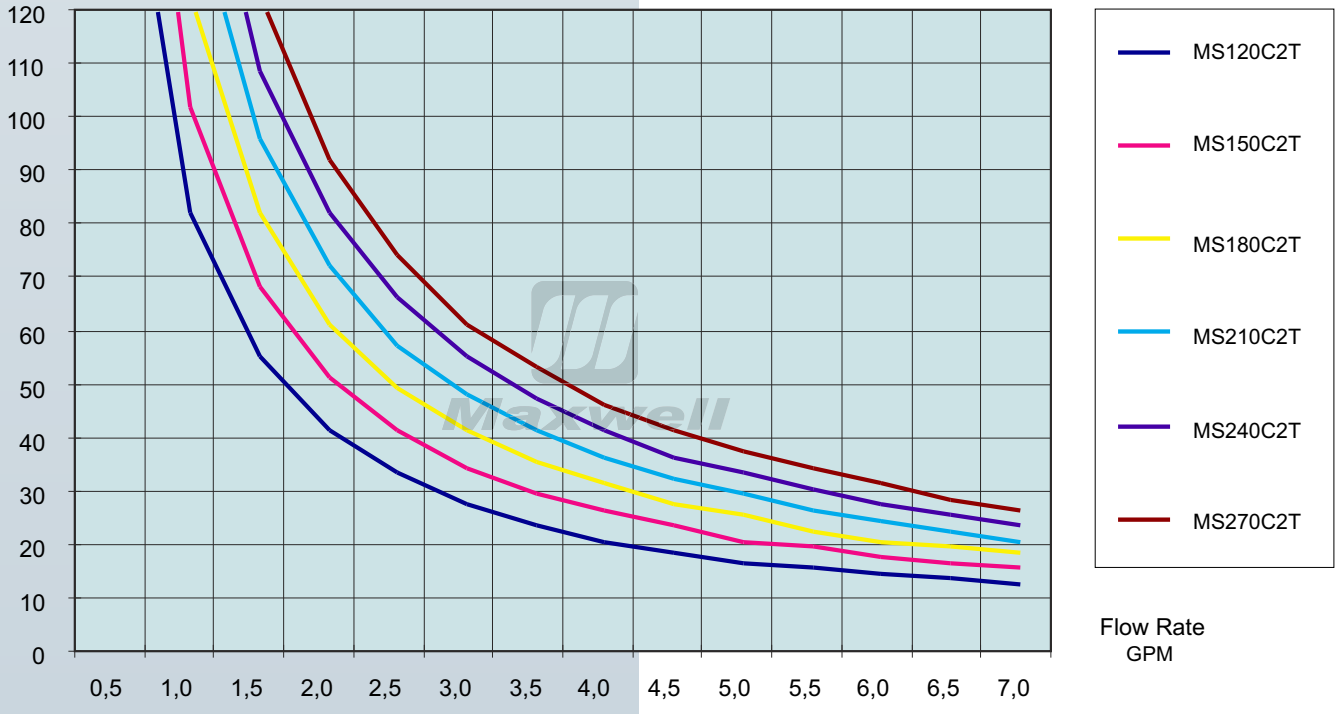
Shower (1.5 gpm) — Sink Faucet (1.0 gpm)
All data above are based on water leaving temperature 105º F (40º C). 1.5 gpm showerhead flow rate; 1.0 gpm sink faucet flow rate, and adequate water pressure @ 60 psi. Actual performance may be altered by variations from these parameters. For voltages less than 240 V the heating capacities will vary and it would be necessary to consider a higher capacity model.

Selection Guide

Temperature Rise (ºF)

Model	MS120C2T	MS150C2T	MS180C2T	MS210C2T	MS240C2T	MS270C2T
Power (kw) / Water Flow(GPM)	12	15	18	21	24	27
0,5	164	205	246	287	328	369
1,0	82	102	123	143	164	184
1,5	55	68	82	96	109	123
2,0	41	51	61	72	82	92
2,5	33	41	49	57	66	74
3,0	27	34	41	48	55	61
3,5	23	29	35	41	47	53
4,0	20	26	31	36	41	46
4,5	18	23	27	32	36	41
5,0	16	20	25	29	33	37
5,5	15	19	22	26	30	34
6,0	14	17	20	24	27	31
6,5	13	16	19	22	25	28
7,0	12	15	18	20	23	26

Temperature Rise ºF @ 240V vs. Flow Rate (GPM)



Based upon DOE formula for calculating flow at rise

$$\text{Flow Rate (gpm)} = \frac{\text{kW rating x 6.83}}{\text{Temp rise (ºF)}}$$

Maxwell®

AquaFinity® Series

Maxwell

ECO FRIENDLY

Go green!

Made by KLIMAIRE®

Mark of Superior Quality

2190 NW 89th Place, Doral, FL 33172
Tel: (305)594-4972 Fax (305) 499-4378
www.klimaire.com sales@klimaire.com

INTERTEK ETL C US
Intertek
4002422